

REMARKS

The present application was filed on February 10, 2004 with claims 1 through 23. Claims 1 through 23 are presently pending in the above-identified patent application. Claims 1, 4, 15, 16, 19, and 21 are proposed to be amended herein.

5 In the Office Action, the Examiner rejected claims 1-6, 10, 11, 14-19, and 21-23 under 35 U.S.C. §102(e) as being anticipated by Kuhmann et al. (United States Patent Number 6,832,013), rejected claims 7 and 8 under 35 U.S.C. §103(a) as being unpatentable over Kuhmann et al. in view of Chan et al. (United States Patent Number 5,122,852), rejected claim 9 under 35 U.S.C. §103(a) as being unpatentable over
10 Kuhmann et al. in view of Burns (United States Patent Publication Number 2001/0046346), rejected claim 12 under 35 U.S.C. §103(a) as being unpatentable over Kuhmann et al. in view of Burdick, Jr. et al. (United States Patent Publication Number 2002/0075107), rejected claim 13 under 35 U.S.C. §103(a) as being unpatentable over Kuhmann et al. in view of Burdick, Jr. et al., and further in view of Coyle, Jr. et al.
15 (United States Patent Number 5,101,090), and rejected claim 20 under 35 U.S.C. §103(a) as being unpatentable over Kuhmann et al. Applicants also note that the Examiner indicated in the Office Action Summary that claim 24, which does not exist, is rejected.

Independent Claims 1 and 21

Independent claims 1 and 21 were rejected under 35 U.S.C. §102(e) as
20 being anticipated by Kuhmann et al. Regarding claim 1, the Examiner asserts that Kuhmann teaches using the one or more etch stop layers to selectively remove material to provide openings having a defined positioning and depth in the circuit board (col. 7, lines 8-24).

Applicants note that Kuhmann is directed to “alignment features” that
25 *protrude from lower layers of an assembly structure* (see, Abstract and FIGS. 5, 6, and 9-18). Independent claims 1 and 21, as amended, require using one or more etch stop layers and providing *one or more cavities* having a defined positioning and depth in the circuit board. Kuhmann does not disclose or suggest cavities in a circuit board.

Thus, Kuhmann does not disclose or suggest using one or more etch stop
30 layers and providing *one or more cavities* having a defined positioning and depth in the circuit board, as required by independent claims 1 and 21, as amended.

Additional Cited References

Chan was also cited by the Examiner for its disclosure of etch stop layers comprising gold. Applicants note that Chan is directed to grafted-crystal-film integrated
5 optics and optoelectronic devices. Chan does not address the issue of creating cavities having a defined positioning and depth in a circuit board.

Thus, Chan does not disclose or suggest using one or more etch stop layers and providing *one or more cavities* having a defined positioning and depth in the circuit board, as required by independent claims 1 and 21, as amended.

10 Burns was also cited by the Examiner for its disclosure of etch stop layers comprising a reflective dielectric thin film. Applicants note that Burns is directed to a micromachined structure and to an opto-mechanical micromachined switch (paragraph 0001). Burns does not address the issue of creating cavities having a defined positioning and depth in a circuit board.

15 Thus, Burns does not disclose or suggest using one or more etch stop layers and providing *one or more cavities* having a defined positioning and depth in the circuit board, as required by independent claims 1 and 21, as amended.

Burdick was also cited by the Examiner for its disclosure of removing material using laser ablation techniques. Applicants notes that Burdick is directed to a
20 method for forming an interconnect structure. Burdick, however, does not address the issue of creating cavities having a defined positioning and depth in a circuit board.

Thus, Burdick does not disclose or suggest using one or more etch stop layers and providing *one or more cavities* having a defined positioning and depth in the circuit board, as required by independent claims 1 and 21, as amended.

25 Coyle was also cited by the Examiner for its disclosure of the use of a carbon dioxide laser for laser ablation techniques. Applicants note that Coyle is directed to methods and apparatus for making optical fiber couplers. Coyle does not address the issue of creating cavities having a defined positioning and depth in a circuit board.

Thus, Coyle does not disclose or suggest using one or more etch stop
30 layers and providing *one or more cavities* having a defined positioning and depth in the circuit board, as required by independent claims 1 and 21, as amended.

Dependent Claims 2-20 and 22-23

Dependent claims 2-6, 10, 11, 14-19, and 22-23 were rejected under 35 U.S.C. §102(e) as being anticipated by Kuhmann et al., claims 7 and 8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kuhmann et al. in view of Chan et al., claim 9 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kuhmann et al. in view of Burns, claim 12 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kuhmann et al. in view of Burdick, Jr. et al., claim 13 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kuhmann et al. in view of Burdick, Jr. et al., and further in view of Coyle, Jr. et al., and claim 20 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kuhmann et al.

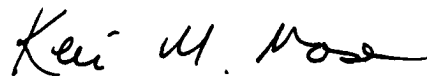
Claims 2-20 and 22-23 are dependent on claims 1 and 21, respectively, and are therefore patentably distinguished over Kuhmann et al., Chan et al., Burns, Burdick, Jr. et al., and Coyle, Jr. et al. (alone or in any combination) because of their dependency from amended independent claims 1 and 21 for the reasons set forth above, as well as other elements these claims add in combination to their base claim.

All of the pending claims, i.e., claims 1-23, are in condition for allowance and such favorable action is earnestly solicited.

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at the telephone number indicated below.

The Examiner's attention to this matter is appreciated.

Respectfully submitted,



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